5.0 CONCLUSIONS

The pesticide uses of all of the Level I pesticides have been canceled for domestic use in the U.S. The flame retardant uses of mirex were curtailed in the 1970's and replaced by more effective products. All the Level 1 pesticides but chlordane have not been in production in the U.S. for many years. Chlordane continued to be produced in the U.S. for export by the product's sole manufacturer, Velsicol Corporation. In 1997 Velsicol announced that the production of both chlordane and heptachlor would cease.

While domestic production has ceased and pesticide uses have been canceled, these pesticides continue to have an environmental presence. That is not surprising, considering the large use rates of the 1960's and '70's coupled with their persistence and atmospheric deposition from long range sources. The environmental concentrations, however, have shown a general decline in most media over the years, with a few exceptions. These exceptions, such as the concentration levels of toxaphene in Lake Superior, the surficial sediment concentrations of dieldrin in Lake Michigan and the atmospheric concentration of DDT near South Haven, Michigan, as noted in the report, merit further study.

Moreover, while environmental concentrations in the Great Lakes Basin media have been generally declining for the past twenty years, current contamination levels remain a concern as reflected by water concentrations that exceed national water quality standards, sediment concentrations that exceed sediment guidelines, and fish consumption advisories based on unacceptable levels of these pesticides in sport and commercial fish.

With regard to the question of whether the U.S. has met the Binational Toxics Strategy challenge goal for the Level 1 pesticides, based on information contained in this report, one can not conclude that the challenge has been met. This is because of the potential for "use or release from sources that enter the Great Lakes Basin" from the following:

- Remaining stockpiles. As significant quantities of the Level I pesticides continue to be collected in Clean Sweeps in the Great Lakes Region, we believe that additional stored quantities exist. From that point of view, we can not guarantee that stored materials will not be used or released to the environment.

- Continued production and use internationally. The contribution of atmospheric deposition to concentrations in the Great Lakes, the potential of these pesticides to be transported long distances, and their continued use and release in other countries suggests that international sources continue to contribute to concentrations in the Great Lakes.

- Release from reservoir sources. Sediments, soil, and localized contaminated industrial sites (NPL Superfund) remain a source of potential release to the Great Lakes Basin.

The declining concentration trends for these substances is encouraging, but the task is not over. Anomalous results of sediment core analysis need to be confirmed to clarify whether non-atmospheric sources of toxaphene, DDT and dieldrin are entering the lakes. The South Haven, MI study must be assessed in an effort to gain more information about releases to the atmosphere from soils. The remediation and/or clean up of identified waste sites must continue. The continuation of Clean Sweep collections has been clearly justified, as the amounts collected would have caused significant increases in contamination of the lakes, had such quantities been released. Finally, the vigilance of the monitoring programs to record progress, and to alert us to continuing and emerging problems created by the presence of these Level 1 pesticides in the environment must continue.